

Appl. No. 09/842,387
Amdt. dated October 17, 2005
Reply to Office Action dated July 11, 2005

AMENDMENTS TO THE SPECIFICATION

Please replace the last paragraph on page 8 of the application with the following paragraph:

FIGS. 3A, 3B, and 3C illustrate one embodiment of the present invention where the contents of the head are copied into the tail and the traveling direction of the data structure is towards the beginning of the tree. FIG. 3A illustrates a sorted tree structure containing a fixed four levels tree structure: level 0 contains the root, level 1 and 2 contain parent nodes, and level 3 contains leaf nodes. The traversing data structure is shown below the tree with its head containing a leaf node index 80 and its tail containing an empty leaf node. The data structure includes a head representing a first pointer to a first leaf node, a tail representing a second pointer to a second leaf node and a body[[.]] physically adjacent to the head and to the tail, having a set of pointers pointing to contiguous empty nodes. Subsequently, in FIG. 3B, the data structure examines its head and detects that the content is non-empty and thereafter copies the content of the leaf node indexed 80 into the tail. When the node indexed 80 has been copied into the tail, the appropriate ancestors of the new node indexed 80 must also be updated to an index of 80 in order to maintain the invariants of the sorted tree structure. In FIG. 3C, the ancestors of the new node in the tail are shown updated from the node tree level to the root tree level.